AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently amended) A telecommunication network, comprising

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of physically separate intersubnetwork connections for connection of the first subnetwork to a second subnetwork, each one of the plurality of intersubnetwork ~~connection with~~connections having a first subnetwork side and second subnetwork side;

a plurality of inverse multiplexers, wherein each ~~with~~one of the plurality of inverse multiplexers has an input ~~which is~~ connected with a respective node of the plurality of nodes, ~~which~~each one of the plurality of inverse multiplexers ~~are~~being arranged for receiving an original data signal transmitted from the respective node to the second subnetwork and inverse multiplexing the original data signal to a plurality of inverse multiplex data signals for transmitting the original data signal via the plurality of intersubnetwork connections in an inverse-multiplexed manner;

a plurality of system multiplexers, each one of the plurality of system multiplexers being connected ~~with~~between outputs of a plurality of the inverse multiplexers and at least one of the plurality of intersubnetwork connections, wherein each one of the plurality of system ~~multiplexer~~multiplexers is connected with a different one of the plurality of intersubnetwork ~~connection~~connections, and the plurality of system multiplexers are arranged for transmitting the inverse multiplex data signals to the second subnetwork, wherein the plurality of inverse multiplex data signals from a same one of the plurality of inverse multiplexers are each transmitted over a different one of the plurality of intersubnetwork ~~connection~~connections; wherein each one of the plurality of system multiplexers is arranged to receive and transmit inverse multiplex data signals from each of the plurality of inverse multiplexers.

2. (Currently amended) A telecommunication network, comprising

a first subnetwork;

a plurality of nodes in the first subnetwork;

a plurality of physically separate intersubnetwork connections for connection of the first subnetwork with a second subnetwork, each one of the plurality of intersubnetwork ~~connection with~~connections having a first subnetwork side and second subnetwork side;

a plurality of inverse demultiplexers, wherein each ~~with~~one of the plurality of inverse demultiplexers has an ~~input~~output ~~which is~~ connected with a respective node of the plurality of nodes, ~~which~~each one of the plurality of inverse demultiplexers ~~are~~being arranged for receiving a plurality of inverse multiplex data signals, recovering an original signal transmitted from the second subnetwork from the plurality of inverse multiplex data signals and presenting the recovered original signal to the respective node of the receiving one of the plurality of inverse ~~demultiplexer~~demultiplexers;

a plurality of system demultiplexers, each one of the plurality of system demultiplexers being connected ~~with~~between an ~~inputs~~input of ~~a~~each one of the plurality of ~~the~~ inverse demultiplexers and at least one of the intersubnetwork connections, wherein each one of the plurality of system ~~demultiplexer~~demultiplexers is connected with a different one of the plurality of physically separate intersubnetwork ~~connection~~connections, and the plurality of system demultiplexers are arranged for receiving the plurality of inverse multiplex data signals from the second subnetwork, wherein each one of the plurality of inverse multiplex data signals for a same one of the plurality of inverse demultiplexers are each received over a different one of the plurality of intersubnetwork ~~connection~~connections; wherein each one of the plurality of system demultiplexers has a plurality of connections to transmit inverse multiplex data signals to each one of the plurality of inverse demultiplexers.

3. (Currently amended) A telecommunication network according to claim 1, wherein each one of the plurality of intersubnetwork connections ~~comprise~~comprises a different local loop telephone ~~connections~~connnection.

4. (Original) A telecommunication network according to claim 3, wherein at least two nodes on the first subnetwork side are located in different buildings.

5. (Currently amended) A telecommunication network according to claim 1, ~~further~~ comprising:

routing units, ~~which~~ each routing unit ~~comprise~~comprising a combination of one of the plurality of inverse multiplexers and one of the plurality of system multiplexers, wherein each routing unit, for interchanging the inverse multiplex data signals with the nodes, is, without intervention of one of the other routing units, connected with a respective node, and via at least one of the routing units with other nodes than the respective node.

6. (Currently amended) A telecommunication network according to claim 5, wherein at least one of the routing units ~~is connected via a regular connection with its respective node, and~~ is connected via a wireless transmission connection for communication with at least one of the other routing units for interchanging the inverse multiplex data signals with the other nodes than the respective node.

7. (Currently amended) A telecommunication network according to claim 1, wherein at least one of the at least two intersubnetwork connections is a broadband connection~~, such as an ADSL connection~~.

8. (Original) A telecommunication network according to claim 7, wherein at least one of the broadband connections has a data throughput speed between 0.5 and 2.0 Mbps in the direction from the second subnetwork to the first subnetwork.

9. (Previously Presented) A telecommunication network according to claim 1, wherein the number of intersubnetwork connections is smaller than the number of nodes connectable with the connecting system in the first subnetwork.

10. (Previously presented) A telecommunication network according to claim 1, wherein the number of intersubnetwork connections is equal to the number of end nodes in the first subnetwork connectable with the second subnetwork via the intersubnetwork connections..

11. (Previously Presented) A telecommunication network according to claim 1, wherein at least one of the inverse multiplexers is arranged for distributing the inverse multiplex data signals over the intersubnetwork connections connected with the inverse multiplexer according to a predetermined distribution criterion.

12. (Original) A telecommunication network according to claim 11, wherein the inverse multiplexer is arranged for transmitting an amount of inverse multiplex data signals over each of the intersubnetwork connections in proportion with the bandwidth of the respective intersubnetwork connection.

13. (Previously Presented) A telecommunication network according to claim 11, wherein the inverse multiplexer is arranged for transmitting an amount of inverse multiplex data signals over each of the intersubnetwork connections in proportion with the number of intersubnetwork connections.

14. (Currently amended) A telecommunication network according to claim 1, wherein the second subnetwork comprises a shared inverse demultiplexer and/or inverse multiplexer for inverse demultiplexing and/or inverse multiplexing original data from and/or for the combined nodes.

15. (Currently amended) A telecommunication network according to claim 1, wherein the second subnetwork comprises a plurality of inverse demultiplexers and/or inverse multiplexers, each for inverse demultiplexing and/or inverse multiplexing of original data from and/or for a respective node from the first subnetwork.

16. (Withdrawn) A connecting device for supporting the interchange of data signals between nodes and a subnetwork, which connecting device is provided with

a terminal for a connection with a first node;

a terminal for an intersubnetwork connection to the subnetwork;

an inverse multiplexer and/or inverse demultiplexer, for inverse multiplexing and/or demultiplexing a local original message during communication with the subnetwork, wherein the inverse multiplexer and/or inverse demultiplexer converts the local message into a plurality of multiplex data signals and/or recovers the local message from a plurality of multiplex data signals, respectively;

a multiplexer element, coupled between the inverse multiplexer and the terminal for the intersubnetwork connection, and further provided with a connection for communication with a multiplexer element of at least one other connecting device, wherein the multiplexer element is arranged to

(a) communicate a first of the multiplex data signals for the local original message with the subnetwork via the intersubnetwork connection; and

(b) communicate a second of the multiplex data signals for the local original message with the subnetwork via the multiplexer element at the at least one other connecting device; and

(c) routing multiplex data signals from a non-local original message for further nodes between the intersubnetwork connection and the multiplexer element of the at least one other connecting device.

17. (Withdrawn) A connecting device according to claim 16, wherein the intersubnetwork connection is a local loop telephone connection.

18. (Withdrawn) A connecting device according to claim 16, wherein the connection for communication with the multiplexer element of the at least one other connecting device is a wireless transmission connection.

19. (Withdrawn) A connecting device according to claim 16, wherein the intersubnetwork connection is a broadband connection, such as an ADSL or cable connection.

20. (Withdrawn) A connecting device according to claim 16, wherein the inverse multiplexer is arranged for distributing inverse multiplex data signals over the intersubnetwork connection and to the multiplexer element of the at least one other connecting device, according to a predetermined distribution criterion.

21. (Withdrawn) A method for transmitting data in a telecommunication network between a first subnetwork and a second subnetwork, comprising:

inverse multiplexing of original data to inverse multiplex data signals;

communicating the inverse multiplex data signals between the first subnetwork and second subnetwork over at least two intersubnetwork connections, wherein at least two of the inverse multiplex data signals are each transmitted over a different intersubnetwork connection; and wherein

multiple systems of inverse multiplex data signals, each system for original data from or to a respective node, are transmitted over the same said at least two intersubnetwork connections in a distributed manner in the first subnetwork.

22. (Withdrawn) A method according to claim 21, wherein the intersubnetwork connections are local loop telephone lines.

23. (Withdrawn) A computer program, comprising computer-executable instructions for carrying out the steps of:

inverse multiplexing of original data to inverse multiplex data signals;

communicating the inverse multiplex data signals between the first subnetwork and second subnetwork over at least two intersubnetwork connections, wherein at least two of the inverse multiplex data signals are each transmitted over a different intersubnetwork connection; and wherein

multiple systems of inverse multiplex data signals, each system for original data from or to a respective node, are transmitted over the same said at least two intersubnetwork connections in a distributed manner in the first subnetwork.

24. (Canceled).

25. (Canceled).

26. (Canceled).

27. (New) A telecommunication network according to claim 2, wherein each one of the plurality of intersubnetwork connections comprises a different local loop telephone connnection.

28. (New) A telecommunication network according to claim 7, wherein at least one of the at least two intersubnetwork connections is an ADSL connection.